

## CLAIMS

1. A leather-like sheet product comprising a substrate which contains a bundle of fine fibers, wherein  
5 the substrate comprises (1) a first substrate layer having a structure that it is composed of an elastic polymer and a bundle of fine fibers and the elastic polymer surrounds the fiber bundle and is not existent in the inside space of the fiber bundle and (2) a second substrate layer (A) having  
10 a structure that it is essentially composed of a bundle of fine fibers, and (3) the structure of the first substrate layer and the structure of the second substrate layer (A) change continuously in the direction of thickness.
- 15 2. The leather-like sheet product according to claim 1, wherein the second substrate layer (A) is essentially composed of an elastic polymer and a bundle of fine fibers.
- 20 3. The leather-like sheet product according to claim 1, wherein a solid surface layer, a porous surface layer or a composite surface layer consisting of a solid layer and a porous layer is formed on the surface on the first substrate layer side of the sheet product.
- 25 4. The leather-like sheet product according to claim 3, wherein the surface layer has a thickness of 1 to 200  $\mu\text{m}$ .
5. The leather-like sheet product according to claim 1, wherein the surface on the first substrate layer side is a  
30 suede-like surface.
6. The leather-like sheet product according to claim 1, wherein the total thickness of the first substrate layer and the second substrate layer (A) is 0.2 to 5 mm.

7. The leather-like sheet product according to claim 1,  
wherein the fiber bundle accounts for 40 to 80 % of the total  
space area of all the voids in the elastic polymer surrounding  
5 the fiber bundle of the first substrate layer in the section  
perpendicular to the surface of the leather-like sheet  
product.

8. The leather-like sheet product according to claim 1,  
10 wherein the weight ratio of the bundle of fine fibers to the  
elastic polymer in the first substrate layer is 10:90 to  
50:50.

9. The leather-like sheet product according to claim 1,  
15 wherein the bundle of fine fibers is an assembly of 10 to  
10,000 fine fibers having an average fineness of 0.0001 to  
0.1 dtex.

10. The leather-like sheet product according to claim 1,  
20 wherein the elastic polymer in the first substrate layer is  
a polyurethane having a solubility in toluene of 15 wt% or  
less.

11. The leather-like sheet product according to claim 1,  
25 wherein the elastic polymer in the first substrate layer is  
a porous elastic material.

12. A process for producing a leather-like sheet product,  
comprising the steps of:  
30 applying a solution of an elastic polymer to one side  
of a sheet substantially composed of a fine fiber forming  
sea-island type fiber consisting of two or more components  
which differ from each other in solvent solubility to form  
an impregnated layer;

coagulating the elastic polymer; and  
dissolving and removing the sea component by using a  
solvent which can dissolve the sea component of the  
sea-island type fiber.

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13. The process for producing a leather-like sheet product  
according to claim 12, wherein the elastic polymer is  
coagulated by a dry process.

10 14. A process for producing a leather-like sheet product,  
comprising the steps of:

applying a solution of an elastic polymer to both sides  
of a sheet substantially composed of a fine fiber forming  
sea-island type fiber consisting of two or more components  
15 which differ from each other in solvent solubility to form  
impregnated layers in such a manner that a non-impregnated  
layer is existent in the center portion of the sheet;

coagulating the elastic polymer;

dissolving and removing the sea component by using a  
20 solvent which can dissolve the sea component of the  
sea-island type fiber; and

slicing the sheet into two at the non-impregnated  
layer.

25 15. The process for producing a leather-like sheet product  
according to claim 12, wherein the elastic polymer is a  
polyurethane having a solubility in toluene of 15 wt% or less.

16. The process for producing a leather-like sheet product  
30 according to claim 14, wherein the elastic polymer is a  
polyurethane having a solubility in toluene of 15 wt% or less.

17. A leather-like sheet product comprising a substrate  
which contains a bundle of fine fibers, wherein

the substrate comprises (1) a first substrate layer having a structure that it is composed of an elastic polymer and a bundle of fine fibers and the elastic polymer surrounds the fiber bundle and is not existent in the inside space of the fiber bundle and (2) a second substrate layer (B) having a structure that it is composed of an elastic polymer and a bundle of fine fibers, the elastic polymer surrounds the fiber bundle and is not existent in the inside space of the fiber bundle, and the total space area of all the voids in the elastic polymer surrounding the fiber bundle is larger than that of the first substrate layer, and (3) the structure of the first substrate layer and the structure of the second substrate (B) layer change continuously in the direction of thickness.

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18. The leather-like sheet product according to claim 17, wherein a solid surface layer, a porous surface layer or a composite surface layer consisting of a solid layer and a porous layer is formed on the surface of the first substrate layer.

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19. The leather-like sheet product according to claim 18, wherein the surface layer has a thickness of 1 to 200  $\mu\text{m}$ .

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20. The leather-like sheet product according to claim 17, wherein the surface of the first substrate layer is a suede-like surface.

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21. The leather-like sheet product according to claim 17, wherein the total thickness of the first substrate layer and the second substrate layer is 0.2 to 5 mm.

22. The leather-like sheet product according to claim 17, wherein the fiber bundle accounts for 40 to 80 % of the total

space area of all the voids in the elastic polymer surrounding the fiber bundle of the first substrate layer in the section perpendicular to the surface of the leather-like sheet product.

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23. The leather-like sheet product according to claim 17, wherein the fiber bundle accounts for less than 40 % of the total space area of all the voids in the elastic polymer surrounding the fiber bundle of the second substrate layer  
10 in the section perpendicular to the surface of the leather-like sheet product.

24. The leather-like sheet product according to claim 17, wherein the weight ratio of the bundle of fine fibers to the  
15 elastic polymer in the first substrate layer is 10:90 to 50:50.

25. The leather-like sheet product according to claim 17, wherein the bundle of fine fibers is an assembly of 10 to  
20 10,000 fine fibers having an average fineness of 0.0001 to 0.1 dtex.

26. The leather-like sheet product according to claim 17, wherein the elastic polymer of the first substrate layer is  
25 a polyurethane having a solubility in toluene of 15 wt% or less.

27. The leather-like sheet product according to claim 17, wherein the elastic polymer of the first substrate layer is  
30 a porous elastic material.

28. A process for producing a leather-like sheet product, comprising the steps of:

impregnating a sheet composed of a fine fiber forming

sea-island type fiber consisting of two or more components which differ from each other in solvent solubility with a solution of an elastic polymer (a);

coagulating the elastic polymer to form a fiber sheet material;

forming a surface layer composed of an elastic polymer (b) surrounding the sea-island type fiber in the surface layer without a space therebetween on the surface of the sheet material; and

dissolving and removing the sea component by using a solvent which can dissolve the sea component of the sea-island type fiber.

29. The process for producing a leather-like sheet product according to claim 28, wherein the elastic polymers (a) and (b) are each a polyurethane having a solubility in toluene of 15 wt% or less.

30. The process for producing a leather-like sheet product according to claim 28, wherein the elastic polymers (a) and (b) have an area change rate by toluene of their films of 5 % or less.

31. The process for producing a leather-like sheet product according to claim 28, wherein the surface layer made of the elastic polymer (b) on the surface of the fiber sheet material is formed by lamination.